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EXAMINER	
BARAN, MARY C	

ART UNIT	PAPER NUMBER
2857	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,480	AXELBERG ET AL.	
	Examiner	Art Unit	
	Mary C. Baran	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 10* is/are rejected.

7)☒ Claim(s) *3-9 and 11-17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 June 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The action is responsive to the Amendment filed on 19 June 2007. Claims 1-17 are pending. Claims 1-15 are amended. Claims 16 and 17 are new.

2. The amendments filed 19 June 2007 are sufficient to overcome the prior 35 U.S.C. 112 second paragraph rejections, 35 U.S.C. 101 rejections and objections to the drawings and specification.

Claim Objections

3. Claims 1, 3-5, 7-9 and 11-14 are objected to because of the following informalities:

(a) Claim 1 page 3 lines 7 and 10, please delete "of".

(b) Claim 3 page 5 lines 5 and 15, "creation of" should be – creating –.

(c) Claim 4 page 6 line 9, please delete "off of".

(d) Claim 5 page 7 line 1, "the first demodulated signal is created" should be – creating the first demodulated signal".

(e) Claim 5 page 7 line 3, "the second demodulated signal is created" should be – creating the second demodulated signal –.

(f) Claim 7 page 7 lines 6 and 10, please delete "of".

(g) Claim 7 page 7 line 14 and page 8 line 4, "frequency analysis" should be – analyzing the frequency –.

(h) Claim 7 page 8 lines 9 and 17, "the creation of" should be – creating –.

(i) Claim 7 page 8 lines 10 and 12, "multiplication" should be – multiplying –.

(j) Claim 7 page 8 line 19, "analysis of" should be – analyzing –.

(k) Claim 8 page 9 line 4, "summation of" should be – summing –.

(l) Claim 9 page 9 lines 4 and 6, "square demodulation (x^2) of" should be – square-demodulating (x^2) –.

(m) Claim 9 page 9 lines 8 and 12, "calculation of" should be – calculating –.

(n) Claim 9 page 10 line 1, "creation of" should be – creating –.

(o) Claim 11 page 10 line 3, please delete "a".

(p) Claim 12 page 14 line 24 and page 15 line 7, "creation of" should be – creating –.

(q) Claim 13 page 15 line 5 and page 16 line 3, "creation of" should be – creating–.

(r) Claim 14 page 16 line 3, "the first demodulated signal is created" should be – creating the first demodulated signal –.

(s) Claim 14 page 16 line 5, "the second demodulated signal is created" should be – creating the second demodulated signal –.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hattori et al. (EP 1072897 A2) (hereinafter Hattori).

Referring to claim 1, Hattori teaches a method for deciding the direction to a flickering source in relation to a measurement point in an electrical network (see Hattori, page 9 lines 35-36) with alternating current with a network frequency with low-frequency amplitude variations from the flicker source (see Hattori, page 10 lines 28-37) comprising the steps:

at a measuring point, recording an amplitude-modulated current signal (see Hattori, page 10 lines 12-14) comprising signals that originate from the network frequency and the low-frequency amplitude variations in the current signal (see Hattori, page 10 lines 28-31) (the listed frequencies 10kHz, 50kHz, 100 kHz, falling in the very low frequency (VLF) and low frequency (LF) ranges);

at a measuring point, recording an amplitude-modulated voltage signal (see Hattori, page 10 lines 12-14) comprising signals that originate from the network frequency and the low-frequency amplitude variations in the voltage signal (see Hattori, page 10 lines 28-31) (the listed frequencies 10kHz, 50kHz, 100 kHz, falling in the very low frequency (VLF) and low frequency (LF) ranges);

demodulating the current signal and extracting, from the demodulated current signal, only the low-frequency amplitude variations in the form of a flicker component for

the current signal (i.e. determining current interference) (see Hattori, page 10 lines 4-6 and lines 12-14);

demodulating the voltage signal and extracting, from the demodulated voltage signal, only the low-frequency amplitude variations in the form of a flicker component for the voltage signal (i.e. determining voltage interference) (see Hattori, page 10 lines 4-6 and lines 12-14);

creating of product by multiplication of the flicker component for the current signal and the flicker component of the voltage signal (see Hattori, page 10 lines 35-43);

creating one of an average value of the instantaneous power signal (see Hattori, page 10 Equation 2) and a summation of the partial powers where a flicker power is obtained (see Hattori, page 10 Equation 3) with a sign value that indicates in which direction the flickering source is located in relation to the measurement point (see Hattori, page 11 lines 10-24); and

displaying an indication of which direction the flickering source is located in relation to the measurement point (see Hattori, page 13 lines 7-9).

Referring to claim 2, Hattori teaches that the sign value of the flicker power is negative when the flickering source is located below the measurement point and the sign value is positive when the flickering source is located above the measurement point (see Hattori, page 11 lines 10-18).

Referring to claim 10, Hattori teaches an arrangement for deciding the direction to a flickering source in relation to a measurement point in an electricity network (see Hattori, page 9 lines 35-36) with alternating current with a network frequency with low-frequency amplitude variations from the flickering source (see Hattori, page 10 lines 28-37), the arrangement comprising:

a first recorder for recording an amplitude-modulated current signal (see Hattori, page 10 lines 12-14) comprising signals that originate from the network frequency and the low-frequency amplitude variations in the current signal (see Hattori, page 10 lines 28-31) (the listed frequencies 10kHz, 50kHz, 100 kHz, falling in the very low frequency (VLF) and low frequency (LF) ranges);

a second recorder for recording amplitude-modulated voltage signal (see Hattori, page 10 lines 12-14) comprising signals that originate from the network frequency and the low-frequency amplitude variations in the voltage signal (see Hattori, page 10 lines 28-31) (the listed frequencies 10kHz, 50kHz, 100 kHz, falling in the very low frequency (VLF) and low frequency (LF) ranges);

a first signal processor for demodulating the current signal and extracting, from the demodulated current signal, only the low-frequency amplitude variations in the form of a flicker component for the current signal (i.e. determining current interference) (see Hattori, page 10 lines 4-6 and lines 12-14);

a second signal processor for demodulating the voltage signal and extracting, from the demodulated voltage signal, only the low-frequency amplitude variations in the

form of a flicker component for the voltage signal (i.e. determining voltage interference) (see Hattori, page 10 lines 4-6 and lines 12-14);

a multiplier for creating a product by multiplication of the flicker component for current and the flicker component for voltage (see Hattori, page 10 lines 35-43);

a processor for processing the product to create one of an average of the instantaneous power signal (see Hattori, page 10 Equation 2) and a summation of the partial powers (see Hattori, page 10 Equation 3) wherein a flicker power is obtained with a sign value that indicates in which direction the flickering source is located in relation to the measurement point (see Hattori, page 11 lines 10-24); and

a display for displaying an indication of which direction the flickering source is located in relation to the measurement point (see Hattori, page 13 lines 7-9).

Allowable Subject Matter

5. Claims 3-6, 11 and 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

Claims 7-9 are objected to for matters of form but when formal matters are corrected would be allowable over the prior art because the combination of limitations reciting a method for diagnostics at a measurement point in an electrical network with

alternating current with a network frequency with low-frequency amplitude variations from a flickering source, comprising the steps of: creating a power vector by multiplying, element by element, of the voltage vector and the current vector; multiplying the power vector by a weighting vector that eliminates the power component that originates from the network frequency, with the power vector comprising partial powers concerning power components from the flickering source; creating a flicker power with a sign value by summation of the partial powers; and analyzing the sign value, with the sign value indicating in which direction from the measurement point the flickering source is to be found is not found, taught or suggested in the prior art of record.

Claim 12 is objected to for matters of form, but when the formal matters are corrected, the claim would be allowable over the prior art because an arrangement for diagnostics at a measurement point in an electrical network with alternating current with a network frequency with low-frequency amplitude variations from a flickering source, the arrangement comprising: a multiplier for the creation of a power vector by multiplying, element by element, of the voltage vector and the current vector; a first processor for the multiplication of the power vector by a weighting vector that eliminates the power component that originates from the network frequency, with the power vector comprising partial powers concerning power components from the flickering source; a second processor for the creation of a flicker power with a sign value by summation of the partial powers; and analyzer for analysis of the sign value, with the sign value indicating in which direction from the measurement point the flickering source is to be found is not found

Response to Arguments

7. Applicant's arguments filed 19 June 2007 have been fully considered but they are not persuasive.

Applicant argues that Hattori does not teach "recoding of an amplitude-modulated current signal comprising signals that originate from low-frequency amplitude variations in the current signal and low-frequency amplitude variations in the voltage signal." However, Applicant's arguments are not well taken. Hattori teaches measuring and recording current and voltage interference, wherein the frequency of the interference is set at 10kHz, 50kHz and 100kHz, 10kHz being the very low frequency (VLF) range and 50kHz and 100kHz being in the low frequency (LF) range. Therefore Hattori teaches recording an amplitude-modulated current signal and an amplitude-modulated voltage signal (see Hattori, page 10 lines 12-14) comprising signals that originate from low-frequency amplitude variations in the current signal and low-frequency amplitude variations in the voltage signal, respectively (see Hattori, page 10 lines 28-31).

Applicant further argues that Hattori does not teach "creating one of an average value of the instantaneous power signal and a summation of the partial powers wherein a flicker power is obtained with a sign value that indicates in which direction the flickering source is located in relation to the measurement point, and displaying an indication of which direction the flickering source is located in relation to the measurement point." However, Applicant's arguments are not well taken. Hattori

teaches determining an average of the instantaneous power signal (see Hattori, page 10 Equation 2) and a summation of the partial powers (see Hattori, page 10 Equation 3). Hattori further teaches using the interference voltage and current signals to determine an energy (i.e. power) and then further determining a positive or negative value of the calculated energy (see Hattori, page 11 lines 10-24). The interference energy, along with the sign of the interference energy is displayed to a user (see Hattori, page 13 lines 7-9). Therefore, Hattori teaches creating one of an average value of the instantaneous power signal (see Hattori, page 10 Equation 2) and a summation of the partial powers (see Hattori, page 10 Equation 3) wherein a flicker power is obtained with a sign value that indicates in which direction the flickering source is located in relation to the measurement point (see Hattori, page 11 lines 10-24), and displaying an indication of which direction the flickering source is located in relation to the measurement point (see Hattori, page 13 lines 7-9).

Applicant further argues that Hattori does not teach "direction of a flickering source", but rather a "direction of a noise source". However, the Examiner understands that "flicker", "amplitude variations" and "noise" are synonymous with each other.

Applicant further argues that Hattori does not teach "demodulating the current/voltage signals and extracting, from the demodulated current/voltage signals, only the low-frequency amplitude variations in the form of a flicker component for the current/voltage signals." However, Applicant's arguments are not well taken. Hattori teaches measuring current and voltage values, Fourier transforming these values and using the transformed values, determining current and voltage interference (see

Hattori, page 10 lines 4-6 and lines 12-14). Therefore, Hattori teaches demodulating the current/voltage signals and extracting, from the demodulated current/voltage signals, only the low-frequency amplitude variations in the form of a flicker component for the current/voltage signals (see Hattori, page 10 lines 4-6 and lines 12-14).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mary Catherine Baran
30 September 2007